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10/586,317	07/14/2006	Takafumi Koshinaka	Y0647.0161	2564
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Office Action Summary

Application No.

10/586,317

Applicant(s)

KOSHINAKA, TAKAFUMI

Examiner

GREG A. BORSETTI

Art Unit

2626

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --
Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 11 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-23 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-23 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SF/ICE)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Response to Amendment

1. Claims 1-23 are pending.
2. Claims 1, 10-12, 21-23 have been amended.

Response to Arguments

3. Applicant's arguments filed 3/11/2009 have been fully considered but they are not persuasive.
4. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "In contrast, claims 1, 10, 11 and 12 recite no such learning step of using training data nor do they require any training data at all." (Remarks, Page 9, ¶ 4)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).
5. Applicant further argues "An additional limitation among the limitations of independent claims 1, 10, 11 and 12 that are neither disclosed nor suggested in the prior art of record are the requirements for "outputting an initial value of a model parameter which defines the [generated] probability model." (Remarks, Page 9, ¶ 5) The Examiner disagrees, when a topic is determined, (column 5, lines 1-2) it is determined to be the topic for which the likelihood of the text is maximal (column 4, lines 55-67). If there has been a determination of a topic which maximizes the likelihood based on the

training procedure, (column 4, lines 5-25) the initial model parameters determined by the training process for the HMM have been output to the segmenter. The argument is not persuasive.

6. Applicant further argues "The selection of a neutral topic does not teach or suggest any initial values for the parameters that define a probability model. Nowhere within the four corners of Kanevsky are there any teachings for initializing model parameters. (Remarks, Page 10, ¶ 2) The Examiner disagrees for the same reasons as above. If there has been a determination of a topic which maximizes the likelihood based on the training procedure, (column 4, lines 5-25) the initial model parameters determined by the training process for the HMM have been output to the segmenter. The argument is not persuasive.

7. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "estimating a model parameter corresponding to a text document as a processing target on the basis of the initial value of the model parameter..., and only the text document." (Remarks, Page 10, ¶ 3)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

8. Applicant further argues "Among the limitations of independent claims 21-23 that are neither disclosed nor suggested in the prior art of record are the requirements for "estimating a parameter of a probability model so that the probability of the text

document being output is maximized or locally maximized, wherein..., the model is fully defined by a model parameter set which is comprised of word output probabilities of words in the topics in the text document and topic transition probabilities." (Remarks, Page 10, ¶ 3) The Examiner disagrees. Kanevsky, column 4, lines 52-67, ...*Find a candidate topic T_i for which the likelihood of the text is maximal...*, the likelihoods are for the text (word) which belongs to the topic (latent variable). Furthermore, the designation of a topic defines the probability of a word being output as it is linked to the maximal probability for the topic. Lastly, column 5, lines 3-65, ...*some likelihood measure for "seeing" a given string of words...* teaches the transition. As is described above, there is an initialization of model parameters which are used to determine the appropriate topics for a given string of words.

9. In response to applicant's argument that the references fail to show certain features of applicant's invention, it is noted that the features upon which applicant relies (i.e., "Again, determining which topic among many learned from training data does not provide disclosure of estimating model parameters based on the initial values and only the text document, as required by the claims" (Remarks, Page 11, ¶ 1)) are not recited in the rejected claim(s). Although the claims are interpreted in light of the specification, limitations from the specification are not read into the claims. See *In re Van Geuns*, 988 F.2d 1181, 26 USPQ2d 1057 (Fed. Cir. 1993).

10. New art has been cited, (Blei, Utiyama, Koshinaka) in light of the amendments.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

11. Claims 1-9 are rejected under 35 U.S.C. 102(b) as being anticipated by Koshinaka et al. (NPL document "An HMM-Based Text Segmentation Method Using Variational Bayes Approach and its Application to LVCSR for Broadcast News")

As per claim 1, Koshinaka teaches the method comprising:

generating a probability model in which information indicating which word of a text document belongs to which topic is made to correspond to a latent variable and each word of the text document is made to correspond to an observable variable; (Page 486, Fig .1, the observable variables are the transitions (a_i), the latent (hidden) variables are (b_i).)

outputting an initial value of a model parameter which defines the generated probability model; (Page, 486, Section 2.3, step 1, prior distribution.)

estimating a model parameter corresponding to a text document as a processing target on the basis of the output initial value of the model parameter and only the text document; (Page 486, Section 2.3, shows the estimation, Page 485, column 1, ...our approach is unsupervised... teaches external training data.)

segmenting the text document as the processing target for each topic on the basis of the estimated model parameter. (Page 486, section 2.3)

As per claim 2, claim 1 is incorporated and Koshinaka teaches:

the step of generating a probability model comprises the step of generating a plurality of probability models, (Page 487, Section 2.4, ...*multiple hypotheses*...)

the step of outputting an initial value of the model parameter comprises the step of outputting an initial value of a model parameter for each of the plurality of probability models, (Page, 486, Section 2.3, step 1, prior distribution. The step is performed for all hypotheses, Page 487, Section 2.4)

the step of estimating a model parameter comprises the step of estimating a model parameter for each of the plurality of probability models, and (Page 486, Section 2.3, shows the estimation which is performed for all hypotheses on N, Page 487, Section 2.4)

the method further comprises the step of selecting a probability model, from the plurality of probability models, which is used to perform processing in the step of segmenting the text document, on the basis of the plurality of estimated model parameters. (Page 487, Section 2.4, AIC, MDL)

As per claim 3, claim 1 is incorporated and Koshinaka teaches:

a probability model is a hidden Markov model. (Page 486, column 1)

As per claim 4, claim 3 is incorporated and Koshinaka teaches:

the hidden Markov model has a unidirectional structure. (Fig. 1)

As per claim 5, claim 3 is incorporated and Koshinaka teaches:

the hidden Markov model is of a discrete output type. (Fig. 1, the markov operates in discrete time, also see Page 485, section 2.1, ...a discrete HMM of N-state left-to-right architecture...)

As per claim 6, claim 1 is incorporated and Koshinaka teaches:

the step of estimating a model parameter comprises the step of estimating a model parameter by using one of maximum likelihood estimation and maximum a posteriori estimation. (Page 486, Section 2.2)

As per claim 7, claim 1 is incorporated and Koshinaka teaches:

characterized in that the step of outputting an initial value of a model parameter comprises the step of hypothesizing a distribution using the model parameter as a probability variable, and outputting an initial value of a hyper-parameter defining the distribution, and (Page 486, Section 2.3, prior distribution, hyper-parameters)

the step of estimating a model parameter comprises the step of estimating a hyper-parameter corresponding to a text document as a processing target on the basis of the output initial value of the hyper-parameter and the text document.
(Page 486-487, Section 2.3, the hyper parameters are estimated and used to estimate

the latent variables)

As per claim 8, claim 7 is incorporated and Koshinaka teaches:

the step of estimating a hyper-parameter comprises the step of estimating a hyper-parameter by using Bayes estimation. (Page 486, Section 2.3, step 2)

As per claim 9, claim 2 is incorporated and Koshinaka teaches:

characterized in that the step of selecting a probability model comprises the step of selecting a probability model by using one of an Akaike's information criterion, a minimum description length criterion, and a Bayes posteriori probability. (Page 487, Section 2.4)

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

12. Claims 10-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Koshinaka et al. (NPL document "An HMM-Based Text Segmentation Method Using Variational Bayes Approach and its Application to LVCSR for Broadcast News")

Claims 10 and 11 are rejected under the same principles for being the computer readable medium claims to the corresponding method claim 1. Each of the stated corresponding claims have parallel limitations between the method and the recording medium of claims 10 and 11. Koshinaka teaches an LVSCR system on page 485, Section 1. It would have been obvious to someone of ordinary skill in the art at the time of the invention that an LVSCR system could have been hardware which requires a computer-readable medium to program the hardware.

Claims 12-20 are rejected under the same principles for being the apparatus claims to the corresponding method claims 1-9. Each of the stated corresponding claims have parallel limitations between the method and the device and the hardware aspect of claims 12-20. Koshinaka teaches an LVSCR system on page 485, Section 1. It would have been obvious to someone of ordinary skill in the art at the time of the invention that an LVSCR system could have been hardware.

As per claim 21, Koshinaka teaches:

estimating a parameter of a probability model so that the probability of the text document being output is maximized or locally maximized, wherein the structure of the probability model is defined by latent variables representing which word of the text document belongs to one of plurality of topics, and the model is fully defined by a model parameter set which is comprised of word output probabilities of words in the topics in the text document and topic transition probabilities and (Page 486, section 2.2

describes an maximum likelihood estimation which estimates a parameter of a probability model such that the probability of the text document is maximized. The structure of the model is an HMM (Fig. 1) which has hidden states (latent variables) defining the topics. The model is fully defined by the parameter set including word output probabilities of words in the topics (hidden variables of the HMM) and the transitions between topics (See Fig. 1, a_i.)

segmenting the text document for each topic by estimating the value of the latent variable for each word on the basis of the parameter of the probability model estimated above. (Section 2.3. Bayesian Segmentation)

Claim 22 is rejected under the same principles for being the computer readable medium claims to the corresponding method claim 21. Each of the stated corresponding claims have parallel limitations between the method and the recording medium of claim 22. Koshinaka teaches an LVSCR system on page 485, Section 1. It would have been obvious to someone of ordinary skill in the art at the time of the invention that an LVSCR system could have been hardware which requires a computer-readable medium to program the hardware.

Claim 23 is rejected under the same principles for being the apparatus claims to the corresponding method claims 21. Each of the stated corresponding claims have parallel limitations between the method and the device and the hardware aspect of claims 23. Koshinaka teaches an LVSCR system on page 485, Section 1. It would have

been obvious to someone of ordinary skill in the art at the time of the invention that an LVSCR system could have been hardware.

13. Claims 1, 3-6, 10-12, 14-17, and 21-23 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blei et al. (NPL document "Topic Segmentation with an Aspect Hidden Markov Model") in view of Utiyama et al. (NPL document "A Statistical Model for Domain-Independent Text Segmentation")

As per claim 1, Blei teaches:

generating a probability model in which information indicating which word of a text document belongs to which topic is made to correspond to a latent variable and each word of the text document is made to correspond to an observable variable; (Fig. 1, Page 344, column 2, ...*The Viterbi algorithm [8], a dynamic programming technique, is used to find the most likely hidden sequence of topic states...given an observed sequence of word sets...*)

outputting an initial value of a model parameter which defines the generated probability model; (Page 345, column 1, ...*In the E-step, we compute the posterior probability of the hidden variable given our current model...*)

segmenting the text document as the processing target for each topic on the basis of the estimated model parameter. (Section 3. HMM SEGMENTATION)

Blei fails to completely teach, but Utiyama teaches:

estimating a model parameter corresponding to a text document as a processing target on the basis of the output initial value of the model parameter and only the text document; (Blei teaches an Expectation Maximization algorithm on page 345, column 1 which maximizes the parameters to fit the topics to the maximum value available by the training data. However, Blei fails to teach that the EM algorithm operates only on the text document itself (no training data). Utiyama teaches this on page 505, column 1, *...Another major difference from their algorithm is that our algorithm does not require training data to estimate probabilities...*)

It would have been obvious to someone of ordinary skill in the art at the time of the invention to combine Utiyama with Blei to avoid using training data for text segmentation such that the method could be applied to text from any domain. (Utiyama, abstract)

As per claim 3, claim 1 is incorporated and Blei teaches:

a probability model is a hidden Markov model. (Abstract, *...We extend this idea by embedding Hofmann's aspect model for text [5] into the segmenting HMM to form an aspect HMM (AHMM)...*)

As per claim 4, claim 3 is incorporated and Blei teaches:

the hidden Markov model has a unidirectional structure. (Fig. 1)

As per claim 5, claim 3 is incorporated and Blei teaches:

the hidden Markov model is of a discrete output type. (Page 344, Fig. 1,
the markov operates in discrete time)

As per claim 6, claim 1 is incorporated and Blei teaches:

the step of estimating a model parameter comprises the step of estimating a
model parameter by using one of maximum likelihood estimation and maximum a
posteriori estimation. (Page 345, column 1, ...*Expectation Maximization*
(*EM*) *algorithm*...)

Claims 10, 11 and 22 are rejected under the same principles for being the
computer readable medium claims to the corresponding method claims 1 and 21. Each
of the stated corresponding claims have parallel limitations between the method and the
recording medium of claims 10, 11, and 22. (Blei, Page 348, column 2) teaches a real
time application of the method. It would have been obvious to someone of ordinary skill
in the art at the time of the invention that a computer-based system would provide real-
time functionality and a computer based system needs to be programmed by a
computer readable recording medium in order to be functional according to the method.

Claims 12-17 are rejected under the same principles for being the apparatus
claims to the corresponding method claims 1, 3, 4, 5, and 6. Each of the stated
corresponding claims have parallel limitations between the method and the device and
the hardware aspect of claims 12-17 are taught by (Blei, Page 348, column 2) where it

would have been obvious to someone of ordinary skill in the art at the time of the invention that the SpeechBot system could have been a hardware computer system.

As per claim 21, Blei teaches:

segmenting the text document for each topic by estimating the value of the latent variable for each word on the basis of the parameter of the probability model estimated above. (Section 3. HMM SEGMENTATION)

Blei, however, fails to fully teach, but Utiyama teaches:

estimating a parameter of a probability model so that the probability of the text document being output is maximized or locally maximized, wherein the structure of the probability model is defined by latent variables representing which word of the text document belongs to one of plurality of topics, and the model is fully defined by a model parameter set which is comprised of word output probabilities of words in the topics in the text document and topic transition probabilities and (Blei teaches an Expectation Maximization algorithm on page 345, column 1 which maximizes the parameters to fit the topics to the maximum value available by the training data. Page 344, column 2, Fig. 1 shows the topics as the hidden states (latent variables). Blei fails to teach that the model parameters are fully defined in the text document. Utiyama teaches this on page 505, column 1, *...Another major difference from their algorithm is that our algorithm does not require training data to estimate probabilities...*)

It would have been obvious to someone of ordinary skill in the art at the time of the invention to combine Utiyama with Blei to avoid using training data for text segmentation such that the method could be applied to text from any domain. (Utiyama, abstract)

Claim 23 is rejected under the same principles for being the apparatus claims to the corresponding method claim 21. Each of the stated corresponding claims have parallel limitations between the method and the device and the hardware aspect of claim 23 is taught by (Blei, Page 348, column 2) where it would have been obvious to someone of ordinary skill in the art at the time of the invention that the SpeechBot system could have been a hardware computer system.

14. Claims 2, 9, 13, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blei et al. (NPL document "Topic Segmentation with an Aspect Hidden Markov Model") in view of Utiyama et al. (NPL document "A Statistical Model for Domain-Independent Text Segmentation") and further in view of Rabiner (NPL document "A tutorial on Hidden Markov Models and Selected Application in Speech Recognition").

As per claim 2, claim 1 is incorporated and Blei teaches:

the generation of a probability model; (Fig. 1, Page 344, column 2, ...*The Viterbi algorithm [8], a dynamic programming technique, is used to find the most likely hidden*

sequence of topic states...given an observed sequence of word sets...)

the step of outputting an initial value of a model parameter for the probability model; and outputting an initial value of a model parameter which defines the generated probability model; (Page 345, column 1, ...*In the E-step, we compute the posterior probability of the hidden variable given our current model...*)

estimating a model parameter for the probability model. (Blei teaches an Expectation Maximization algorithm on page 345, column 1 which maximizes the parameters to fit the topics to the maximum value available by the training data.)

Blei and Utiyama fail to teach, but Rabiner teaches:

multiple probability models; (Rabiner, page 266, discloses multiple HMM models which are applicable to the HMM used in Blei. It would be obvious to someone of ordinary skill in the art that multiple models could be developed around the number of states or form of the HMM models to characterize them differently. Upon use, one will perform the best, so it would be obvious that one model would be chosen to be used for segmentation of the text document.)

It would have been obvious to someone of ordinary skill in the art at the time of the invention to combine Rabiner with Blei and Utiyama to be able to choose a model that best represents the observed properties of the signal (Rabiner, Page 266) to use the observed properties to determine the best location for a topic change.

As per claim 9, claim 2 is incorporated and Blei, Utiyama, and Rabiner fails to

specifically teach:

the step of selecting a probability model comprises the step of selecting a probability model by using one of an Akaike's information criterion, a minimum description length criterion, and a Bayes posteriori probability (However, Akaike's information criterion is well known in the art for model selection. Since it is obvious to select a model, it would be obvious to someone of ordinary skill to use Akaike's information criterion to select a model to determine the best model for segmentation of the text.)

Claims 13 and 20 are rejected under the same principles for being the apparatus claims to the corresponding method claims 2 and 9. Each of the stated corresponding claims have parallel limitations between the method and the device and the hardware aspect of claims 13 and 20 are taught by (Blei, Page 348, column 2) where it would have been obvious to someone of ordinary skill in the art at the time of the invention that the SpeechBot system could have been a hardware computer system.

15. Claims 7-8, and 18-19 are rejected under 35 U.S.C. 103(a) as being unpatentable over Blei et al. (NPL document "Topic Segmentation with an Aspect Hidden Markov Model") in view of Utiyama et al. (NPL document "A Statistical Model for Domain-Independent Text Segmentation") and further in view of NPL document "Bayesian Adaptive Learning of the Parameters of Hidden Markov Model for Speech Recognition" hereinafter Huo).

As per claim 7, claim 1 is incorporated and Blei and Utiyama fails to teach, but Huo teaches:

the step of outputting an initial value of a model parameter comprises the step of hypothesizing a distribution using the model parameter as a probability variable, and outputting an initial value of a hyper-parameter defining the distribution
(Huo, page 335, *...we do not explicitly show the parameters of the prior PDF (often referred to as the hyperparameters) which are assigned values by the investigator since the values are assigned, and thus initialized...*)

the step of estimating a model parameter comprises the step of estimating a hyper-parameter corresponding to a text document as a processing target on the basis of the output initial value of the hyper-parameter and the text document
(Huo, page 335, *...the important issue of prior density estimation is addressed and an empirical Bayes method to estimate the hyperparameters of prior density based on the moment estimate is proposed...*, Furthermore, Huo, 339, teaches that equation 49 is used for updating the hyperparameters. Thus, they are based on the initial value and are estimated.)

Huo and Blei are analogous art because Huo's paper concerns the training of the HMM model parameters that are used in Blei. It would be obvious to someone of ordinary skill in the art at the time of the invention to combine Huo with the Blei and Utiyama device because Huo provides algorithms that "are shown to be effective especially in the cases in which the training or adaptation data are limited" which would provide an improvement over previous algorithms.

As per claim 8, claim 7 is incorporated and Blei and Utiyama fails to teach, but Huo teaches:

the step of estimating a hyper-parameter comprises the step of estimating a hyper-parameter by using Bayes estimation

(Huo, page 335, *...the important issue of prior density estimation is addressed and an empirical Bayes method to estimate the hyperparameters of prior density based on the moment estimate is proposed....*, Bayes estimation is used to estimate the parameters.)

Huo and Blei are analogous art because Huo's paper concerns the training of the HMM model parameters that are used in Blei. It would be obvious to someone of ordinary skill in the art at the time of the invention to combine Huo with the Blei and Utiyama device because Huo provides algorithms that "are shown to be effective especially in the cases in which the training or adaptation data are limited" which would provide an improvement over previous algorithms.

Claims 18 and 19 are rejected under the same principles for being the apparatus claims to the corresponding method claims 7 and 8. Each of the stated corresponding claims have parallel limitations between the method and the device and the hardware aspect of claims 18 and 19 are taught by (Blei, Page 348, column 2) where it would have been obvious to someone of ordinary skill in the art at the time of the invention that the SpeechBot system could have been a hardware computer system.

Conclusion

16. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Refer to PTO-892, Notice of References Cited for a listing of analogous art.

17. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire **THREE MONTHS** from the mailing date of this action. In the event a first reply is filed within **TWO MONTHS** of the mailing date of this final action and the advisory action is not mailed until after the end of the **THREE-MONTH** shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than **SIX MONTHS** from the date of this final action.

18. Any inquiry concerning this communication or earlier communications from the examiner should be directed to GREG A. BORSETTI whose telephone number is (571)270-3885. The examiner can normally be reached on Monday - Thursday (8am - 5pm Eastern Time).

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, RICHMOND DORVIL can be reached on 571-272-7602. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/Greg A. Borsetti/
Examiner, Art Unit 2626

/Talivaldis Ivars Smits/
Primary Examiner, Art Unit 2626

4/24/2009